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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,182	02/13/2002	Masashi Kitabayashi	111953	5253
25944	7590	03/03/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			GEISEL, KARA E	
			ART UNIT	PAPER NUMBER

2877

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/073,182	Applicant(s) KITABAYASHI ET AL.	
	Examiner Kara E Geisel	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-14 and 16-20 is/are allowed.
- 6) ☒ Claim(s) 1 and 8 is/are rejected.
- 7) ☒ Claim(s) 2-7,9,10 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0202</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

The certified copies have been filed in this application on February 13th, 2002.

Information Disclosure Statement

The information disclosure statement filed on February 13th, 2002 has been fully considered by the examiner.

Claim Objections

Claim 15 is objected to because of the following informalities: minor typographical error.

In regards to claim 15, line 10, is "e" supposed to be "be"?

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuyama et al. (USPN 6,031,587).

In regards to claims 1 and 8, Okuyama discloses a position adjusting system and method used for producing a projector having a light source (fig. 2, 6), a color separating optical system (fig. 2, 3-5) for separating a light beam irradiated by the light source into a plurality of color lights, an optical component casing (fig. 2, 2) that accommodates optical components constituting the color separating optical system, a plurality of color modulators (fig. 2, 24-26) that modulate the respective color lights separated by the color separating optical system in accordance with image information, and a color combining optical system (fig. 2, 21-23) that combines the light beam modulated by the respective optical modulators to form an optical image, the position adjusting method adjusting the position of the color combining optical system relative to the optical component casing (fig. 4, S), comprising an irradiator (fig. 2, 6 and column 2, lines 1-22) that supplies a white beam on an optical axis (fig. 5, D) of light beam passing through the optical component casing, a combined light sensor (fig. 5, 42) that causes the respective color light generated by separating the white beam by the color separating optical system to be incident on a light-incident end surface of the color combining optical system and detects the light beam combined by the color combining optical system, and a position adjuster that adjusts the position of the color combining optical system based on the combined light detected by the combined light sensor (column 4, lines 36-43 and column 5, lines 41-50). Okuyama does not disclose that the white beam irradiator is a laser beam irradiator. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a white laser beam irradiator as the white beam irradiator in this device since white lasers are well known in the art to be used in projectors.

Allowable Subject Matter

Claims 11-14, and 16-20 are allowed.

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Claim 15 would be allowable if rewritten or amended to overcome the objection set forth in this Office action.

Claims 2-7 and 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As to claim 2, the prior art of record, taken alone or in combination, fails to disclose or render obvious a position adjusting method of color combining optical system used for producing a projector including a light source, a color separating optical system that separates a light beam irradiated by the light source into a plurality of color lights, an optical component casing that accommodates optical components constituting the color separating optical system, a plurality of optical modulators that modulate the respective color lights separated by the color separating optical system in accordance with image information, and a color combining optical system that combines the light beam modulated by the respective optical modulators to form an optical image, the position adjusting method adjusting the position of the color combining optical system relative to the optical components casing, wherein the completion of the position adjustment is determined while monitoring detection status in a combined light detecting step, in combination with the rest of the limitations of claim 2.

As to claim 9, the prior art of record, taken alone or in combination, fails to disclose or render obvious a position adjusting system used for producing a projector having a light source, a color separating optical system for separating a light beam irradiated by the light source into a plurality of color lights, an optical component casing that accommodates optical components constituting the color separating optical system, a plurality of color modulators that modulate the respective color lights separated by the color separating optical system in accordance with image information, and a color combining optical system that combines the light beam modulated by the respective optical modulators to

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form an optical image, the position adjusting method adjusting the position of the color combining optical system relative to the optical component casing, wherein a combined light sensor has an adjustment completion determining portion that determines completion of position adjustment of the color combining optical system while monitoring detection status of the combined light, in combination with the rest of the limitations of claim 9.

As to claim 10, the prior art of record, taken alone or in combination, fails to disclose or render obvious a position adjusting system used for producing a projector having a light source, a color separating optical system for separating a light beam irradiated by the light source into a plurality of color lights, an optical component casing that accommodates optical components constituting the color separating optical system, a plurality of color modulators that modulate the respective color lights separated by the color separating optical system in accordance with image information, and a color combining optical system that combines the light beam modulated by the respective optical modulators to form an optical image, the position adjusting method adjusting the position of the color combining optical system relative to the optical component casing, wherein a the color combining optical system has a color combining prism and a fixing plate adhered on the lower side of the prism by a light curing adhesive to be mechanically fixed to the optical component casing, in combination with the rest of the limitations of claim 10.

As to claim 11, the prior art of record, taken alone or in combination, fails to disclose or render obvious a color combining optical system including a color-combining prism and a fixing plate adhered on the lower side of the prism by a light curing adhesive to be mechanically fixed to an optical component casing wherein the prism is adhered on the fixing plate while at least a part of the prism is in contact with a spherical bulging portion, in combination with the rest of the limitations of claim 11.

As to claim 15, the prior art of record, taken alone or in combination, fails to disclose or render obvious a position adjusting system of an optical modulator used for producing a projector having a light

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source, a color separating optical system that separates a light beam irradiated by the light source into a plurality of color lights, an optical component casing that accommodates optical components constituting the color separating optical system, a plurality of color modulators that modulate the respective color lights separated by the color separating optical system in accordance with image information, and a color combining optical system that combines the light beam modulated by the respective optical modulators to form an optical image, the position adjusting method adjusting the relative position of the plurality of color combining optical systems comprising an image sensor provided on the backside of a transmissive screen to detect a projection image projected on the transmissive screen, and an optical axis sensor that detects an illumination optical axis set in the optical component casing, wherein the optical modulator is adjusted by an adjustor body based on the illumination optical axis detected by the optical axis sensor, in combination with the rest of the limitations of claim 15.

As to claim 19, the prior art of record, taken alone or in combination, fails to disclose or render obvious a position adjusting method of optical modulator used for producing a projector including a light source, a color separating optical system that separates a light beam irradiated by the light source into a plurality of color lights, an optical component casing that accommodates optical components constituting the color separating optical system, a plurality of optical modulators that modulate the respective color lights separated by the color separating optical system in accordance with image information, and a color combining optical system that combines the light beam modulated by the respective optical modulators to form an optical image, the position adjusting method adjusting the relative position of the plurality of color combining optical systems, comprising adjusting the relative position of the optical modulators based on the position of a calculated optical axis of the optical component casing.

Additional Prior Art

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The prior art made of record is Kitabayashi et al. (USPN 6,320,709), Maki et al. (USPN 6,345,895), Fujimori (USPN 6,592,226), and Yamaguchi et al. (USPN 6,565,213).

Kitabayashi discloses a position adjusting method of an optical modulator used in a projector system.

Maki discloses a position adjusting method of an optical modulator used in a projector system.

Fujimori discloses a unit for mounting and adjusting an optical modulator onto a color combining system used in a projector.

Yamaguchi discloses a position adjusting method for a color combining optical system used in a projector.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kara E Geisel whose telephone number is **571 272 2416**. The examiner can normally be reached on Monday through Friday, 8am to 4pm.

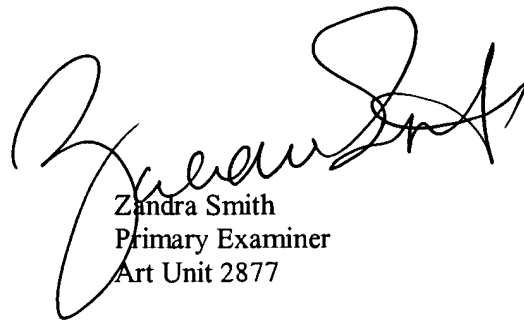
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on **571 272 2415**. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9306 for regular communications and 703 872 9306 for After Final communications. For inquiries of a general nature, the Customer Service fax number is 703 872 9317.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 1782.

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Zandra Smith
Primary Examiner
Art Unit 2877

K.G.

KEG

February 15, 2004